



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,732	02/26/2002	Hiroaki Nemoto	ASA-1074	3964
24956	7590	12/06/2005	EXAMINER	
MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.			PSITOS, ARISTOTELIS M	
1800 DIAGONAL ROAD			ART UNIT	PAPER NUMBER
SUITE 370				
ALEXANDRIA, VA 22314			2656	

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/069,732	NEMOTO ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Aristotelis M. Psitos	2656

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 04 November 2005.
- 2a) This action is **FINAL**.                                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-9,12 and 13 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-9,12 and 13 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

**DETAILED ACTION**

Applicants' response of 11/4/05 has been considered with the following results.

***Drawings***

The newly submitted Figures 1-4 have been approved. Applicants' cooperation is greatly appreciated..

***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 1 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 11-096608. The US patent to Nakajima et al (6317280) is the US equivalent and relied upon in the rejection below.

The following analysis is made;

claim 1 Nakajima et al

An information recording/reproducing see title/abstract  
method, comprising the steps of:

applying a magnetic field to form a magnetic see figs. 13/14 and their  
recording domain whose magnetic wall orientation is along description  
thermal distribution direction, while heating partially a  
recording medium for storing an information with the recording  
magnetic domain of a magnetic recording layer on a substrate

surface, and

scanning on the recording medium so that a magnetic flux from the magnetic recording domain is detected to reproduce by a magnetic flux detecting means,

wherein an orientation of a longitudinal direction of the magnetic flux detecting means is changed in accordance with a radial position of the magnetic recording domain to be detected, and the thermal distribution direction is changed in accordance with the radial position of the magnetic recording domain to be formed by the partial heating of the recording medium so that the magnetic wall orientation of the magnetic recording domain is aligned with respect to the longitudinal direction of the magnetic flux detecting means.

see fig. 14 and its description

inherently follows

As far as the examiner can ascertain from the above noted figures and their associated disclosure, the claimed steps of claim 1 are present.

As interpreted by the examiner, the newly inserted wherein clause is a conclusion that follows from the limitations positively recited in the previous lines of the claim.

If applicants can convince the examiner that such is not true, the claims would be rejected under 112 (paragraph two) as failing to particularly point out and distinctly claim the invention since the resultant claimed is not attributed to the limitations positively recited in the claim as it stands.

With respect to claim 12, such is considered present in the above system.

***Response to Arguments***

Applicant's arguments filed 11/4/05 have been fully considered but they are not persuasive. The examiner maintains the previous position. If the above art does not perform the desired function, the system would not be able to record/reproduce any information.

2. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over either the acknowledged prior art of figures 1-4 or the above noted JP system as relied upon in paragraph 2 further considered with Fuji et al or alternatively the Nakajima/prior art system further considered with Fuji et al and Kojima et al.

The following analysis is made:

Claim 2	Either the acknowledge prior art/fig. 1 JP/US Nakajima et al system/see Identification as noted above see title/abstract
An information recording/reproducing apparatus for a recording medium for storing an information with a recording magnetic domain in a magnetic recording layer formed on a substrate, comprising,	
heating means for heating partially the recording medium,	heating means present - see figure 1, head 4 – col. 6 lines 15-55
magnetic field applying means for applying a magnetic field to the vicinity of an area heated by the	such present fig. 1 head 2

heating means, and

magnetic flux generating means for detecting a such present fig. 1

magnetic flux with scanning on the recording medium, head 3

wherein a difference between a radial position see secondary reference

of the heating means when heating partially the

recording medium to form the recording magnetic

domain and a radial position of the magnetic flux

detecting means when detecting the magnetic flux

generated by the recording magnetic domain is

changed in accordance with a radial

position of a recording track to be scanned

when heating partially the recording

medium to form the recording magnetic domain

and detecting the magnetic flux

generated by the recording magnetic domain

so that a magnetic wall orientation of the

magnetic recording domain is aligned with

respect to a longitudinal direction of the

magnetic flux detecting means.

The examiner interprets the wherein clause as recited desired result(s) that occur/flow from the elements positively recited, else the claims would be incomplete – see the above problem with respect to 112 paragraph 2.

As noted in the above analysis, the JP/US system to Nakajima et al provides for the overall structure recited in claim 2, with the exception of the ultimate paragraph.

The secondary reference to Fuji et al, - see figure 11 for instance provides for appropriate tracking control capability - see elements 78 and 79. Due to the relative displacements between the heating element and the magnetic flux detecting, the examiner interprets the ultimate paragraph limitation to be met – i.e., the tracking position of the heating element – as further noted in figure 11 is changed relatively with respect to tracking position of the magnetic flux detecting means in accordance with the tracking position.

Alternatively, as noted in figure 10 in the Kojima et al system, the heating element is separately located with respect to the transducer element 2 and hence the tracking position of such is changed relatively with respect to the detecting element.

It would have been obvious to modify the base system of Nakajima et al with the above teaching from either Fuji et al or Fuji et al and Kojima et al, motivation is to provide for the appropriate tracking capability to the heating element so as to ensure proper signal conditions for recording/reproducing.

### ***Response to Arguments***

Applicant's arguments filed 11/4/05 have been fully considered but they are not persuasive. The examiner maintains the previous position. If the above art does not perform the desired function, the system would not be able to record/reproduce any information.

3. Claims 3,4 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by either the acknowledged prior art or the Nakajima et al of Fuji et al references.

The elements recited are deemed present in either the acknowledged prior art figure 1 of the disclosure, Nakajima et al – figures 1 or 12, or Fuji et al – see figure 4 for instance.

With respect to the phrase;

“wherein an orientation of a thermal distribution generated by the partial heating of the recording medium for forming the recording magnetic domain is rotated in accordance with a radial position of the recording magnetic domain to be formed so

that a magnetic wall orientation of the recording magnetic domain is aligned with respect to a longitudinal direction of the magnetic flux detecting means".

Such is considered an inherent result of the above noted systems – see the further discussion of such as found in the discussion of figures 2-3 in Lee et al.

With respect to claim 4 such a direction is considered present in the above combination of references.

With respect to claim 13, such is considered present in the above system.

Again, such a desired function must follow from the structure positively recited, and hence is met by the above references.

#### ***Response to Arguments***

Applicant's arguments filed 11/4/05 have been fully considered but they are not persuasive. The examiner maintains the previous position. If the above art does not perform the desired function, the system would not be able to record/reproduce any information.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 3 above, and further in view of Belser et al ('100).

With respect to the newly amended claim, the ability of arranging an optical element as recited is considered to be an obvious modification as further taught by the Belser et al system. Note the description of the movable micro mirror – the examiner interprets such as an optical element in the appropriate optical path, and that is arranged so as to project a minute spot upon the recording medium as recited. That is as interpreted as the arm swings across the radius of the record medium, the movement of the mirror elongates the light spot.

It would have been obvious to modify the base system as relied upon above with this arrangement teaching of Belser et al, motivation is to properly track the recording track so as to record/reproduce the spot appropriately.

***Response to Arguments***

Applicant's arguments with respect to this claim have been considered but are moot in view of the new ground(s) of rejection.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claims 3 and 2 respectively as stated in the paragraphs above, and further in view of Novotny et al.

The following analysis is made:

**Claim 6**

An information recording/reproducing apparatus according to claim 3, characterized in that a

Novotny et al -

abstract/title

tracking position of the heating means is changed relatively col 4 lines

with respect to a tracking position of the magnetic flux 20-37.

detecting means, in accordance with a radial position of a track scanned on the disk.

It would have been obvious to modify the base system of any of the primary references with the additional teaching from Novotny et al, motivation is to accurately scan the appropriate surface area.

***Response to Arguments***

Applicant's arguments filed 11/4/05 have been fully considered but they are not persuasive. The examiner maintains the previous position. If the above art does not perform the desired function, the system would not be able to record/reproduce any information.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 3 above, and further in view of JP 05-298737.

The ability of having a test-write and test read in this environment is taught by the JP reference to Kirino et al – see the abstract for instance.

It would have been obvious to modify the base system as relied upon with respect to claim 3 in paragraph 4 with the additional teaching from the JP document, motivation is to provide for the reduction as stated in the abstract of the JP document.

***Response to Arguments***

Applicant's arguments filed 11/4/05 have been fully considered but they are not persuasive. The examiner maintains the previous position. If the above art does not perform the desired function, the system would not be able to record/reproduce any information.

7. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 2 above, and further in view of Yonezawa et al.

As interpreted by the examiner, the limitation of claim 8 is disclosed in the application as being present in the Yonezawa et al system.

It would have been obvious to modify the base system as relied upon above with respect to claim 2 as stated in paragraph 3 above, motivation is to provide for the appropriate servo capability.

With respect to the limitation of claim 9 :

" characterized in that an angle of the recess-and-projection structure with respect to the track direction is substantially in accord with an angle of the magnetic flux detecting means with respect to the track direction, at each position on the recording medium ". Such occurs when the system operates in order to record the appropriate servo information – see also Novotny et al – the spiral shaped tracks in figures 4b and 4c.

***Response to Arguments***

Applicant's arguments filed 11/4/05 have been fully considered but they are not persuasive. The examiner maintains the previous position. If the above art does not perform the desired function, the system would not be able to record/reproduce any information.

**Conclusion**

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aristotelis M. Psitos whose telephone number is (571) 272-7594. The examiner can normally be reached on M-Thursday 8 - 3.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aristotelis M Psitos  
Primary Examiner  
Art Unit 2656

AMP